

CLAIMS

1. A device for the characterisation of microorganisms comprising a porous body having regions of differing pore size said regions being associated with different chromogens specific to enzymes produced by microorganisms.
2. A device as claimed in claim 1 where the porous body comprises membranes impregnated with chromogens.
3. A device as claimed in claims 1 and 2 in which the porous body comprises a plurality of membranes having differing pore sizes
4. A device as claimed in claims 1 to 3 where pore sizes vary from $0.6\mu\text{m}$ to $3.5\mu\text{m}$.
5. A device as claimed in claims 1 to 4 where the membranes are cellulose membranes.
6. A device as claimed in claims 1 to 5 in which the chromogens are specific to different enzymes.
7. A device as claimed in claims 1 to 6 in which the chromogens impart a characteristic colour to different bacterial colonies.
8. A device as claimed in claims 1 to 7 where the chromogenic substrate is chosen from Indoxyl butyrate, Indoxyl glucoside, Esculin, Magenta glucoside, Red- β -glucuronide, 2-methoxy-4-(2-nitrovinyl) phenyl β -D-glucopyranoside (MNP-glc), 2-methoxy-4-(2-nitrovinyl) phenyl β -D-2-acetamido-2-deoxyglucopyranoside (MNP-glcNAc), 5-Bromo-4-Chloro-3-Indoxyl-beta-D-Glucuronide, Cyclohexylammonium Salt (X-Glc), 5-Bromo-4-Chloro-3-indoyl-beta-D-Galactopyranoside (X-gal).
9. A device as claimed in claims 1 to 8 where the porous body further comprises a phosphate buffer.
10. A device as claimed in claims 1 to 9 where the porous body further comprises IPTG.

11. A device as claimed in claims 1 to 10 where the porous body further comprises Mg²⁺ ions.

12. A device as claimed in claims 1 to 11 where the membranes are presented in a layered arrangement, the uppermost layer comprising a sample application pad of 903 membrane impregnated with a phosphate buffer, subsequent regions are in the form of layers having pore sizes of 3.0µm, 1.2µm, 0.8µm and 0.6µm respectively.

13 A device as claimed in claims 1 to 11 where the membranes are presented in a row and column arrangements, each row comprising a particular substrate and each column comprising a different filter.

14. A method for characterising bacteria using a device as claimed in any of claims 1 to 13 comprising the steps of

- a) applying a solution containing bacteria to the porous body in an area having the largest pore size,
- b) allowing the solution to wick though the porous body,
- c) leaving the device to develop in an incubator set to 37°C,
assessing the colours developed on the device in order to ascertain the bacteria present.